



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/801,891

03/08/2001

Jiangnan Chen

CE08387R

7191

22917

7590

05/31/2005

MOTOROLA, INC.

1303 EAST ALGONQUIN ROAD

IL01/3RD

SCHAUMBURG, IL 60196

EXAMINER

CORRIELUS, JEAN B

ART UNIT

PAPER NUMBER

2637

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/801,891

Applicant(s)

CHEN ET AL.

Examiner

Jean B Corrielus

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7,9-11,14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-11,14 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/26/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement filed 3/18/05 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because Document No. 2001-9621 is not in English. It has been placed in the application file, but the information referred to therein has been considered only partly as to the merits with respect to the US document. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

### ***Allowable Subject Matter***

2. The indicated allowability of claims 1-5, 7, and 13 is withdrawn in view of the newly discovered reference(s) to Jalloul et al (US Patent Application Publication S/N US2004/0157609 A1), Takaki (US Patent No. 5,638,408) and Elezabi et al (US Patent Application Publication S/N US 2002/0122392A1). Rejections based on the newly cited reference(s) follow.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jalloul et al in view of Elezabi.

As per claim 1, Jalloul et al discloses an apparatus fig. 3 comprising a first signal path 310 comprising a first despreader 302 a second despreader 304 coupled to the first despreader 302 a first deinterleaver coupled to the second despreader; a second signal path 320 comprising a third despreader 303 a fourth despreader 305 coupled to the third despreader 303 a second deinterleaver coupled to the fourth despreader a combiner for combining output of the first deinterleaver and the second deinterleaver. However, Jalloul does not teach a first branch metric coupled to the first deinterleaver and a second branch metric coupled to the second deinterleaver. In the same field of endeavor, Elezabi et al discloses fig. 2 a first circuit 202 comprising and a first branch metric coupled to a first deinterleaver 202 and a summing device it further discloses a second circuit 202 comprising a branch metric coupled a second deinterleaver and the summing device, see paragraphs 0027-0034. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in Jalloul et al so as to improve system performance as taught by Elezabi see paragraph 0008.

As per claim 2, the first despreader despreads data transmitted from a first base station 131.

As per claim 3, the second despreader despreads data transmitted from a second base station 132.

As per claim 4, note at paragraph.004 Elezabi discloses that in system using convolutional encoding at the transmitter a Viterbi decoder is used at the receiver. Since a Viterbi decoder is used in combination to the receiver see fig. 2, a convolutional encoder has to be used in the transmitter. Given that fact. It would have been to one skill in the art to incorporate such a teaching in the second base station of in Jalloul in order to minimize error in the transmitted signal.

As per claim 5, note at paragraph 004 Elezabi discloses that in system using convolutional encoding at the transmitter a Viterbi decoder is used at the receiver. Since a Viterbi decoder is used in combination to the receiver see fig. 2, a convolutional encoder has to be used in the transmitter. Given that fact. It would have been to one skill in the art to incorporate such a teaching in the second base station of Jalloul in order to minimize error in the transmitted signal.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2637

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 6, 7, 11, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Takaki.

As per claim 6, Takaki discloses an apparatus fig. 2 comprising a first branch metric generator 304 having a plurality of symbols as input see output of adder 303 and outputting first path (branch) metrics; a second branch metric generator 307 having a plurality of symbols as input see output of adder 306 and outputting first path (branch) metrics. Takaki further teaches that the transmission signal (symbols) is encoded using four different rates see col. 2, lines 59-65.

Claim 11 is similarly rejected.

As per claim 7 the first plurality of symbols differ in number from the second plurality of symbols see fig. 2, adder 303 and 306.

As per claim 14, the first signal is transmitted from a base station see col. 2, line 62.

7. Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takaki in view of Jalloul et al.

As per claim 9, Takaki teaches every feature of the claimed invention and further teaches that the first plurality of symbols are transmitted by a first base station see col. 2, line 62 and fails to explicitly teach that the second plurality of symbols are transmitted by a second based station. In the same field of endeavor, Jalloul et al teaches transmitting a first signal stream from a first base station 131 and transmitting a

Art Unit: 2637

second signal from a second base station 132. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in Takaki in order create transmission diversity.

Claim 15 is likewise rejected.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takaki .

As per claim 10, Takaki teaches every feature of the claimed invention but does not explicitly teach a logic for receiving the first and second signal streams and outputting the symbols with zeros inserted at various time intervals. However, providing a device or logic for inserting zeros into a signal stream is old and well established in the art. Given that it would have been obvious to one skill in the art to modify Takaki by incorporating a logic for inserting zeroes into the symbol streams so as to ensure that the signals are transmitted at a predetermined constant rate.

### **Response to Arguments**


9. As per applicant argument in reference to the preliminary amendment dated 3/8/02, note the last office action was responsive to both the 3/8/01 and 3/8/02 communications.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Maxi-Flex.

Art Unit: 2637

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-3086. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jean B Corrieus  
Primary Examiner  
Art Unit 2637 5/28/05